

2007-1146  
(Serial No. 19/064,380)

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UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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IN RE MICHAEL L. BEIGEL, NATHANIEL POLISH,  
STEVEN R. FRANK, and ROBERT E. MALM

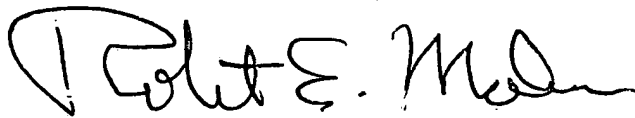
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Appeal From The United States Patent and Trademark Office,  
Board Of Patent Appeals And Interferences

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APPELLANT'S PETITION FOR PANEL REHEARING

Attorney for the Appellant



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November 6, 2007

# CERTIFICATE OF INTEREST

## UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

IN RE BEIGEL

v.

No. 2007-1146

### CERTIFICATE OF INTEREST

Counsel for the (petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

APPELLANT certifies the following (use "None" if applicable; use extra sheets if necessary):

1. The full name of every party or amicus represented by me is:

MICHAEL L. BEIGEL, NATHANIEL POLISH, STEVEN R. FRANK, AND  
ROBERT E. MALM

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:

AVID IDENTIFICATION SYSTEMS, INC.

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

NONE

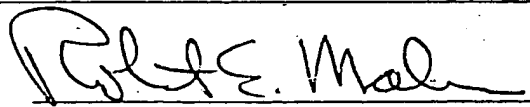
4. ☒ There is no such corporation as listed in paragraph 3.

5. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

NONE

Feb. 4, 2007

Date



Signature of counsel

ROBERT E. MALM

Printed name of counsel

# TABLE OF CONTENTS

CERTIFICATE OF INTEREST .....	I
FACT OVERLOOKED OR MISAPPREHENDED .....	1
ARGUMENT.....	2
PART A.....	2
CLAIMS 70, 71, 75, 47, 56.....	2
CLAIM 57.....	5
PART B.....	7
ADDENDUM.....	9
PROOF OF SERVICE .....	10

## **FACTS OVERLOOKED OR MISAPPREHENDED**

The court appears to have overlooked or misapprehended portions of Carroll et al. (U.S. Patent No. 5,517,194) which clearly indicate that the Carroll et al. invention does not include performing the act of "embedding a bit-timing clock signal in the alternating magnetic field generated by the reader". This act is a key limitation in claims 70, 71, 75, 47, and 56. The absence of a disclosure of this act in Carroll et al., the sole basis for rejecting the listed claims, should result in a reversal of the patent office's rejection of these claims.

The court also appears to have overlooked or misapprehended the fact that the Carroll et al. invention utilizes Manchester-coded PSK in transmitting data from the tag to the reader, a type of modulation which is distinctly different from that which provides the basis for the limitation of claim 57. The patent office has provided no arguments as to why a person skilled in the art would find it obvious to substitute appellant's claimed modulation technique for the Manchester-coded PSK technique used in the Carroll et al. invention. The patent office should also be reversed in its obviousness rejection of claim 57.

# ARGUMENT

## PART A

The affirmance of the Board of Patent Appeals and Interferences rejections of claims 70, 71, 75, 47, 56, and 57 is unjustified. The court appears to have overlooked or misapprehended the facts of the case as stated in appellant's brief and which were unrefuted by appellee. In essence, the reference cited by the Board does not describe an invention which anticipates all of the claimed limitations of each of the appealed claims.

### CLAIMS 70, 71, 75, 47, 56

All of these claims include the limitation "a reader embedding bit-timing clock signal in alternating magnetic field" with minor variations in wording. The Board argued that certain actions performed by Carroll et al.'s reader subsequent to its interrogation of a tag constitute "embedding bit-timing clock signal in alternating magnetic field." It is shown in appellant's brief (beginning on page 20) that this is not true:

*The only thing that Carroll et al.'s reader (controller 10) ever embeds in its alternating magnetic field is a "command word" and this occurs after Carroll et al.'s reader has interrogated for tags, has obtained a response and data from a tag in its vicinity, and now wants to send data to the tag.*

*Carroll et al. describes the process of sending data to the tag as follows:*

*"With additional reference now to FIG. 4B, an associated controller 10 either reads from, or writes to, the non-volatile memory 48 of the transponder 40 by sending a command word 112. The command word 112 is transmitted in bit for bit synchronization with the configuration word 100 or any data being sent from the transponder 40 to the controller 10. The command word 112, therefore, incorporates a corresponding synchronization block 114 comprising logic level zero bits D0-D3 followed by a logic level one start bit 116 comprising bit D4 of the command word 112." Carroll et al., A853, col. 16, lines 1-10 (emphasis added).*

*The words in boldface suggest (at least to the examiner and the Board) that "synchronization block 114" results in the embedding of a bit-timing clock signal in the alternating magnetic field generated by Carroll et al.'s reader (controller 10) in the same way that "synchronization block 102" resulted in the embedding of a bit-timing clock signal in the alternating magnetic field generated by Carroll et al.'s tag (transponder 40).*

It is shown in appellant's brief (beginning on page 22) why the incorporation of synchronization block 114 in command word 112 does not result in the embedding of a bit-timing clock signal:

*We return now to the command word 112 transmitted by Carroll et al.'s reader (controller 10) to tag (transponder 40) which "incorporates a corresponding synchronization block 114 comprising logic level zero bits D0-D3 followed by a logic level one start bit 116 comprising bit D4 of the command word 112."*

*Carroll et al.'s reader does not use Manchester encoding in transmitting command word 112. The transmission of a "0" results in the alternating magnetic field of the reader having the unmodulated frequency 125 kHz for the entire bit period. The transmission of a "1" results in the frequency of the alternating magnetic field being 125 kHz for the first half of the bit period and 116.3 kHz for the second half of the bit period:*

*"At decision step 348, it is determined whether or not a "one" should be written to the associated transponder 40 in synchronization with the data being transmitted from the transponder 40 to the controller*

10. If a "one" bit is to be transmitted to the transponder 40, . . . [i]his is effectuated by toggling the controller 10 carrier from 125 KHz to 116.3 KHz for 1/2 bit time at step 350. If the decision is made that the controller is not writing a "one" at step 348, or has completed the operation of step 350, the firmware proceeds to step 352 signifying the finish of the write operation (FinishWrite"). At this point, the carrier from the controller 10 is returned to the unmodulated 125 KHz for the remainder of the bit time [i.e. the frequency of the alternating magnetic field is 125 KHz for the entire bit period when a "0" is being transmitted (see Fig. 2H, steps 348, 350, and 352)." Carroll et al., A851, col. 11, lines 13-26.

Thus, the transmission of the four "0's" in sync block results in the frequency of the alternating magnetic field remaining at the unmodulated value of 125 kHz for four bit periods followed by a change to 116.3 kHz for half a bit period when the message start bit "1" (the fifth bit in sync block 114) is transmitted. Sync block 114 provides a message start indication but there is no individual bit timing that is associated with a bit-timing clock signal. In short, there is no bit-timing clock signal embedded in the alternating magnetic field generated by Carroll et al.'s reader and Carroll et al.'s tag has no need for such an embedded bit-timing clock signal to identify the bits transmitted by the reader to the tag since the reader's transmitted data is in bit for bit synchronism with the bits received by the reader from the tag :

"In operation, in order to read or write data to the non-volatile memory 48 of the transponder 40, the controller sends a command word 112 specifying the appropriate word address 118 and command bits 120 in synchronization with the PSK modulated configuration word transmitted from the transponder 40 to the controller 10. . . . The controller 10 sends the command bits 120 after reading the synchronization block 102 and start bit 104 of the configuration word 100. The sending of the command word 112 bits is **bit-by-bit synchronized with the timing of the bits of the configuration word and any data following by timing from the synchronization block 102 and start bit 104.**" Carroll et al., A853, col. 16, lines 36-52 (emphasis added).

Appellee's view of appellant's argument is stated in appellant's reply (beginning on

page 15):

*There are some odds and ends in Appellee's argument (pages 16-20) which need to be clarified. Appellee entitles his argument "Carroll's Synchronization Code Sent From the Reader to the Tag is a Bit-timing Control Signal." and then states his agreement with Appellant that "the synchronization block [i.e. Carroll's synchronization code] shown in Carroll's Figure 4B includes a string of four "0"s, and hence a signal having a constant frequency [i.e. alternating magnetic field]" (Appellee's Brief, p. 19, first two lines). A "signal having a constant frequency" is simply the alternating magnetic field created by Carroll et al.'s reader. It does not have an embedded bit-timing clock signal. An embedded bit-timing clock signal would result in a signal having multiple frequency components.*

### **CLAIM 57**

Claim 57 reads as follows:

*57. The tag of claim 56 wherein the means for embedding a sequence of bits comprises:  
a means for causing the phase of the driving signal to have a first phase when a "0" bit is being transmitted and to have a second phase when a "1" bit is being transmitted.*

The examiner argued that the claim language does not require "the phase be constant for the entire bit period." With this interpretation, no type of modulation is excluded and the claim is meaningless.

It was explained in appellant's brief (beginning on the last line of page 57)



that:

*The claim language does require the phase of the driving signal to be a constant during the entire bit period and to be equal to a "first phase" when a "0" bit is being transmitted and to be equal to a "second phase" when a "1" bit is being transmitted.*

With the proper interpretation of the claim language, the limitation is not disclosed by Carroll et al. and there is no basis for an obviousness rejection of the claim.

There is nothing in appellee's brief that refutes appellant's argument.

## PART B

As an alternative approach to determining the patentability of the appealed claims, it was argued in appellant's brief (beginning on page 30):

*As a result of a Federal Circuit decision, examiners are required to interpret a step-plus-function limitation in a claim in terms of the corresponding structure, materials or acts described in the specification:*

*"As a consequence of a decision by the Court of Appeals for the Federal Circuit in its en banc decision In re Donaldson Co., 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994), 'examiners must interpret a 35 U.S.C. 112, sixth paragraph 'means or step plus function' limitation in a claim as limited to the corresponding structure, materials or acts described in the specification and equivalents thereof. . . ." MPEP § 2181.*

*The limitation "embedding a bit-timing clock signal in the alternating magnetic field" should be considered to be a step-plus-function element since "the element at issue sets forth a step for reaching a particular result, but not the specific technique or procedure used to achieve the result." Caterpillar Inc. v. Detroit Diesel Corp., 41 USPQ2d 1876, 1882 (N.D. Ind. 1996) (cited in MPEP § 2181). Thus, this limitation is subject to the requirements of In re Donaldson Co.*

Appellee dismissed this argument as amounting "to conclusory statements that the above terms are functions and not acts." Appellee's Brief, p. 28.

Appellant responded at follows (beginning on page 21 of appellant's reply):

*The underlying facts are:*

*(1) The statute 35 U.S.C. § 112, ¶ 6 "applies to functional method claims where the element at issue sets forth a step for reaching a particular result, but not the specific technique or procedure used to*

*achieve the result." Caterpillar Inc. v. Detroit Diesel Corp., 41 USPQ2d 1876, 1882 (N.D. Ind. 1996) (cited in MPEP § 2181); and*

*(2) The element at issue "embedding a bit-timing clock signal in the alternating magnetic field" sets forth a step for reaching a particular result but does not disclose a specific technique or procedure for achieving the result.*

*It follows that the element at issue, in accordance with case law, should be considered to be a step-plus-function claim limitation subject to 35 U.S.C. § 112, ¶ 6.*

In the event that the court concludes that the evidence presented in Part A of this petition is insufficient to justify reversal of the patent office's rejection of the appealed claims, appellant requests that the court remand the case to the patent office for further examination with instructions that the limitation "a reader embedding bit-timing clock signal in alternating magnetic field" (1) is a step-plus-function limitation and is subject to the requirements of *In re Donaldson Co.* and (2) should be given patentable weight when it appears in the preamble of a claim (see appellant's brief, pp. 34-38).

## **ADDENDUM**

NOTE: This disposition is nonprecedential.

## United States Court of Appeals for the Federal Circuit

2007-1146  
(Serial No. 10/64,380)

IN RE MICHAEL L. BEIGEL, NATHANIEL POLISH,  
STEVEN R. FRANK, and ROBERT E. MALM

### JUDGMENT

ON APPEAL from the United States Patent and Trademark Office  
Board of Patent Appeals and Interferences

In CASE NO(S). Serial No. 10/064,380

This CAUSE having been heard and considered, it is

ORDERED and ADJUDGED: AFFIRMED. See Fed. Cir. R. 36

**FILED**  
U.S. COURT OF APPEALS FOR  
THE FEDERAL CIRCUIT


OCT 18 2007

Per Curiam (NEWMAN, RADER, and DYK, Circuit Judges).

IAN HORBALY  
CLERK

ENTERED BY ORDER OF THE COURT

DATED: OCT 18 2007

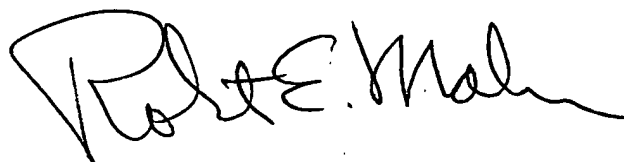


Jan Horbaly, Clerk

## PROOF OF SERVICE

I hereby certify that on November 6, 2007, I caused two copies of the foregoing document is being mailed by first class mail, postage prepaid, to the attorneys for appellee NATHAN K. KELLEY and THOMAS W. KRAUSE at OFFICE OF THE SOLICITOR, P.O. Box 15667, Arlington, Virginia 22215.

I further certify that on November 6, 2007, I caused twelve copies of the foregoing document to be filed by first class mail, postage prepaid, with the Clerk of Court, United States Court of Appeals for the Federal Circuit, 717 Madison Place, N.W., Washington, D.C. 20439.

A handwritten signature in black ink, appearing to read "Robert E. Malm". The signature is stylized with a large, looped initial "R" and a long, horizontal flourish at the end.

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